

The KOP-FLEX MAX-C® Coupling Advantages:

- Transmits very high torque and cushions system shock.
- Never needs lubrication.
- Easy to assemble and install.
- Operates in wet, gritty, hot and other tough conditions.
- Can increase drive train and gear component life.
- Does not need routine maintenance.

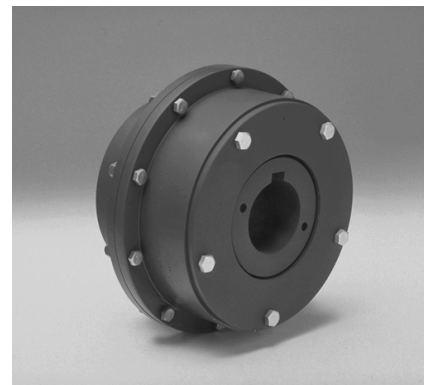
Theory of Operation

A flexible coupling must perform two tasks: transmit torque from driving to driven shaft and accommodate shaft misalignments—angular, offset and axial. However, many applications require a third function. These applications involve severe torque fluctuations, starting and stopping of high inertia machinery, shock and impact loading and certain other types of torsional vibration problems characteristic of reciprocating equipment. This third function is to provide the proper degree of resilience and damping.

Resilience is the capacity of the coupling to assume relatively large torsional deflections under torque. That is what the MAX-C® coupling supplies, a means to attenuate and dampen torsional shock loading and vibration while accommodating misalignment.

Coupling Design is the Key

KOP-FLEX MAX-C® couplings employ three principal components: an outer sleeve, an inner flex hub, both made of metal, and resilient drive blocks. When assembled, the flex hub and sleeve form cavities into which specially designed elastomer blocks are placed. The elastomer blocks are incompressible but the pockets allow block deformation under torque; the cavities are completely filled only under conditions of extreme overload and the coupling thus combines high load carrying capability with resilience. This provides smooth power transmission, day after day, year after year, without the coupling ever needing lubrication.



Superior Service Life

The KOP-FLEX elastomer block materials (several different block compounds are available) are the key to the MAX-C's ability to provide consistent torque transmission with long service life. No other coupling will duplicate its performance and longevity. Block life is long, usually five years or more, but the blocks are easy to replace if useful service life has been reached. Replacing the blocks makes the coupling virtually as good as new.

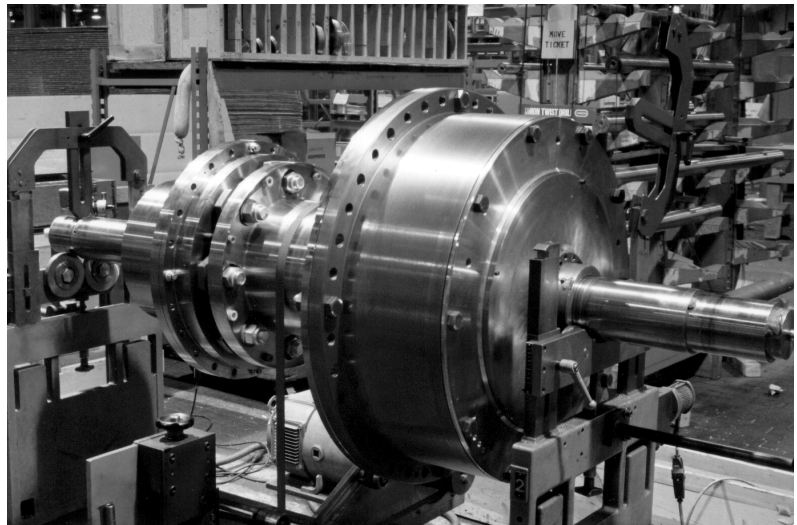
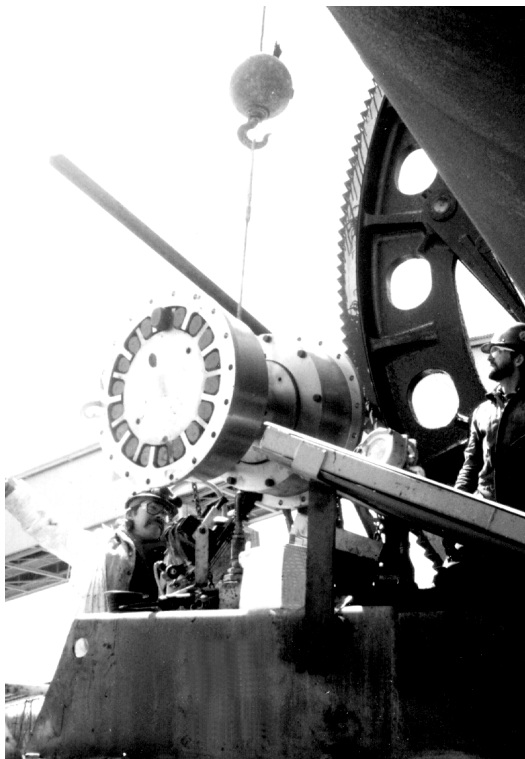
Block Material

Type K2 and UB blocks are available in a single compound, MC elastomer, which is specially designed for long life and higher strength than rubber blocks. Maximum operating temperature for MC elastomer blocks is 175 °F.

Type WB and CB blocks are supplied in various compounds (natural, nitrile, and SBR high damping rubber) and various hardnesses (40 through 80 Shore 'A' hardness). Since these couplings are designed for engineered applications, the correct block compound and hardness is generally defined by a detailed torsional analysis, or by user experience. Special compounds are also available for specific properties such as high temperature or oil resistant characteristics.

Fail-Safe Design

The inter-locking design of the hub and sleeve blades provide a coupling design that is inherently fail-safe. In the unlikely event that the blocks should suffer a complete failure, the coupling will continue to transmit torque through metal-to-metal contact of the inter-locking blades until the equipment can be shut down and the blocks replaced.



Selection of Coupling Type

The type of MAX-C® coupling is selected based on the application and any specific requirements (torsional stiffness, damping, etc.) stated by the customer. Each type of coupling has specific torsional properties and should be selected accordingly.

Prime Mover		Max-C Coupling Type		
		Type K2/UB	Type CB	Type WB
Electric Motors	Crane Drives	●		
	Bow Thruster	●	●	
	Pumps	●		
	Reduction Gears	●		●
	Feed Rolls	●		●
	Fans	●		●
	Conveyors	●		
	Manipulators	●		●
Synchronous & Variable Frequency Motors	Centrifugal Compressors		●	●
	Speed Increaseers			●
	Mill Pinions			●
	Kiln Drives			●
	Crushers			●
Diesel Engines	ID & FD Fans			●
	Generator Sets		●	
	Fire Pumps		●	
	Torque Convertors		●	
	Marine Gears		●	
	Dynamometers		●	
	Drill Rigs		●	
	Main Propulsion		●	
	Bow or Stern Thruster		●	

MAX-C “WB” HYBRIDS

THE SOLUTION COUPLING FOR SYNCHRONOUS AND VARIABLE FREQUENCY MOTOR APPLICATIONS WITH HIGH TORSIONAL VIBRATORY LOADING

Some synchronous motors apply high vibratory torque loads to a drive train when they synchronize at start-up. Variable frequency motor trains can have high vibratory torque loads due to resonant frequency interference at certain operating speeds. To combat these loads the equipment can be increased in size, or damping can be introduced into the system to reduce the magnitude of these loads.

In many cases the costs are prohibitive to make the drive train shafts, gearboxes, and other equipment larger. The solution is to introduce damping. The MAX-C end of a MAX-C “WB” HYBRID does this.

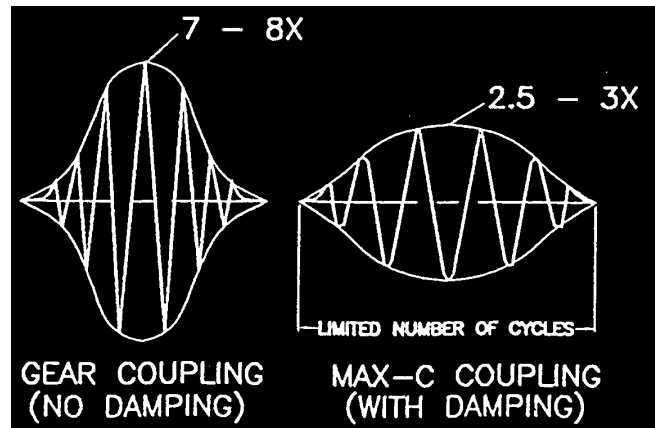
The damping provided by the high damping SBR rubber loaded in compression, along with the high shock load capacity of the “WB” Wedge Block cavity filling shape, make the MAX-C end of the hybrid the “damping” solution.

With a MAX-C on the motor end, the driven equipment does not have to be as large. But, the MAX-C® coupling is much larger in diameter, weighs more, and is more costly than a standard high performance coupling. The driven equipment shaft and bearing cannot always support the increased weight.

So, the solution is to mate the MAX-C half with a standard more economical, lighter weight high performance coupling half.

The MAX-C HYBRID is a MAX-C mated with a High Performance Diaphragm, a High Performance Disc, a KS Disc, or a High Performance or modified standard Gear Coupling, whichever is preferred or best suited to the application.

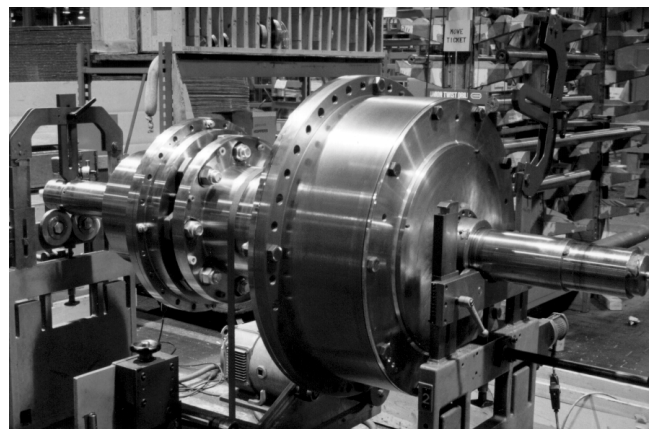
No matter which, KOP-FLEX can engineer and manufacture the entire coupling, something no one else in the industry can do.

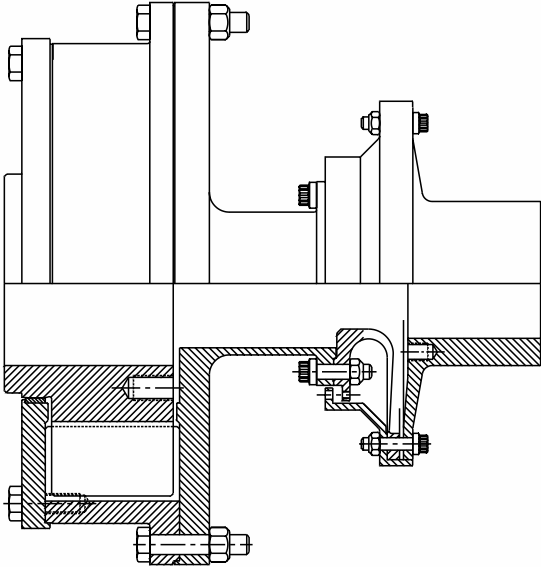


TORQUE MAGNITUDE REDUCTION WITH A MAX-C

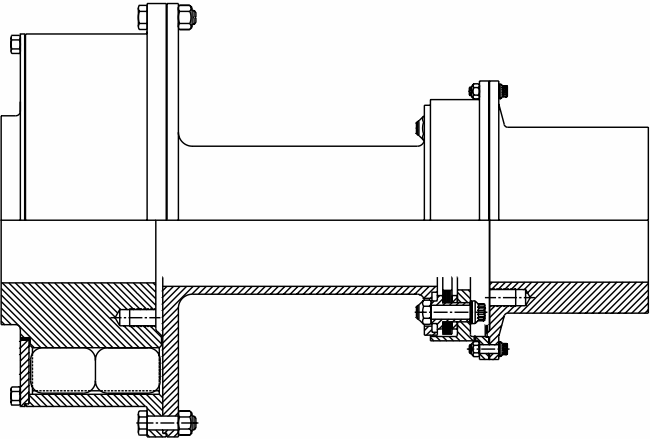
THE MAX-C “WB” HYBRID COUPLING ADVANTAGES

- REDUCED TORQUE LOADS FOR A SMALLER DRIVE TRAIN
- LIGHT WEIGHT, ECONOMICAL STANDARD COUPLING DESIGN ON THE DRIVEN SHAFTS
- SBR HIGH DAMPING RUBBER
- “WB” WEDGE BLOCK HIGH SHOCK LOAD CAPACITY
- NO LUBRICATION REQUIRED ON THE MAX-C END

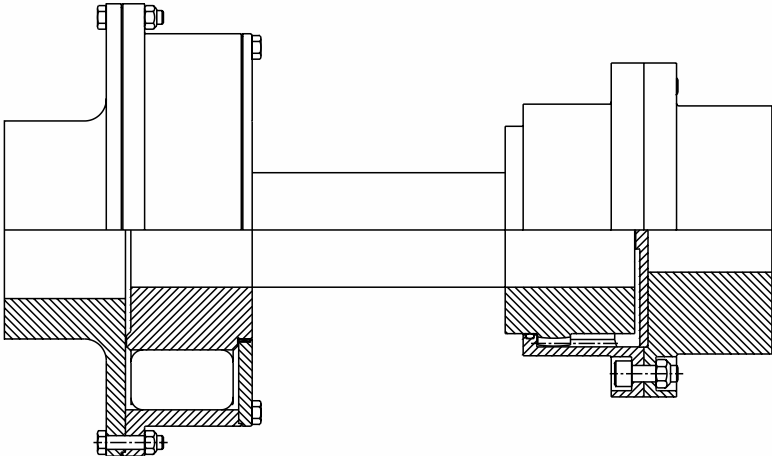




MAX-C "WB" / DIAPHRAGM MS COUPLING HYBRID



MAX-C "WB" / KOP-FLEX MP DISC COUPLING HYBRID



MAX-C "WB" / GEAR COUPLING HYBRID